

MICHAEL W. BUKSAS

Mathematical Modeling and Analysis (T-7)

MS B-258

Los Alamos National Laboratory

Los Alamos, New Mexico 87545

Work phone: (505) 667-7580

Home phone: (505) 471-1976

mwbuksas@lanl.gov

<http://math.lanl.gov/~mwbuksas/>

SUMMARY:

An experienced programmer in C/C++, Fortran and MATLAB, with a Ph.D. in applied mathematics. Trained in mathematical modeling and numerical algorithms for the simulation of physical phenomena, and experienced in the development of reusable software components.

PROFESSIONAL SKILLS:

- Five years experience in object oriented design and programming in C++.
- Eight years experience implementing numerical algorithms in Fortran and MATLAB.
- Experienced at developing multi-language software and extending existing software packages.
- Able to formulate physics-based mathematical models for a wide variety of phenomena.
- Trained in the numerical analysis and computer simulation of physics-based models.
- Skilled at communicating research results through technical presentations and writing.
- Skilled at comprehending and applying results from the mathematical literature.

PROFESSIONAL EXPERIENCE:

Postdoctoral Research Associate: Los Alamos National Laboratory 10/1998 – Present

- Developed and documented extensions to a C++ numerical computing software package (PDEUM).
- Researched and implemented new algorithms for electromagnetic simulations.
- Co-organized *Arizona Days 2000* conference at Los Alamos.
- Coauthored book *Electromagnetic Material Interrogation Using Conductive Interfaces and Acoustic Wavefronts* in the Frontiers in Applied Mathematics series (SIAM).
- Authored peer-reviewed articles and gave invited presentations on research.

Doctoral Candidate: North Carolina State University 9/1997 – 10/1998

- Designed, implemented and documented C++ software libraries for linear algebra, numerical analysis and optimization.
- Conducted extensive numerical simulation of electromagnetic scattering problems to determine feasibility of microwave-based medical diagnostics.

Visiting Student Scientist: Los Alamos National Laboratory 6/1997 – 8/1997

- Contributed to development and testing of numerical C++ software package (PDEUM).
- Applied existing software algorithms to electromagnetic simulations.

EDUCATION:

Doctor of Philosophy, Computational Mathematics 9/1998

North Carolina State University, Raleigh, NC

Graduated with 4.0/4.0 GPA

Thesis advisor: Dr. H.T. Banks

Bachelor of Science, Applied Mathematics and Operations Research

5/1993

Harvey Mudd College, Claremont, CA

Graduated with High Distinction (3.7/4.0 GPA) and Honors.

Advisor: Dr. A. Benjamin